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UNITED STATES DEPARTMENT OF AGRICULTURE ★
Bureau of Agricultural Chemistry and Engineering
Naval Stores Research Division
Naval Stores Station, Olustee, Florida

How to Charge a Turpentine Still

You can lose several dollars on each charge if your still is not charged in the right way. This is the way to charge a hot still to make the best rosin and the most turpentine.

First see that the fire has been pulled from the furnace and thoroughly wet down and that the furnace door is open. Then as soon as the rosin is all out from the preceding charge and the tail-gate is closed, immediately dump in one-half barrel of water (about 25 gallons, or two and one-half gallons of water to each 50-gallon barrel of gum in the charge). Leave the water in the still and at once dump in the gum from the dip barrels.

Clean out the dip barrels thoroughly, getting all the gum possible from the barrels into the charge. The barrels can be cleaned by steaming them or by laying them down and removing the gum with a "round point" shovel which has had the point cut off square. By cleaning the dip barrels with a shovel or steam, the drainer tubs will not be needed, thus eliminating a dirty upper deck and a source of low grade and oxidized gum.

Here are the reasons for these directions:

The brickwork of the firebox is very much hotter than the rosin just drawn. Therefore, as soon as the rosin is out of the still the still itself must absorb this heat and gets much hotter. Then, if the still is not cooled immediately with water it becomes so hot that any rosin and dirt around the edges (and there are always several gallons left in the still) darkens greatly and may even bake and partly burn into a black mass on the crown. Thus the next charge may be lowered one or two grades. The crown overheats where the rosin and sand bake on it and in time flattens and burns out at these places. More wood is required to heat stills which have sand and rosin baked on the crown.

Another reason for charging a still in this way is that when the still is cooled with water less turpentine is lost during charging. There is also less danger of fire from the escape of spirits from the open still.

The fire is wet down to minimize the danger of fire. The furnace door is kept open when charging to help cool the still and prevent fire. Keeping the door open creates a draft which carries any sparks up into the chimney and away from the still.

It takes about twenty minutes longer to distill a charge when the one-half barrel of water is put in before the gum, but it pays in better rosin grades, more turpentine, and fewer fires. This information has been proved by the Naval Stores Station of the Bureau of Agricultural Chemistry and Engineering at Olustee, Florida.

How much gum to put in a still:

The capacity of stills is rated on the number of 31-1/2-gallon (wine) barrels they will hold. A 20-barrel still holds to the collar twenty 31-1/2-gallon barrels or thirteen 50-gallon barrels. A 30-barrel still holds thirty 31-1/2-gallon barrels or nineteen 50-gallon barrels of gum.

Do not overcharge the still. Probably more stills have been burned from overcharging than from any other cause. Remember that old, unraised gum foams more than virgin, raised or yearling unraised. The following table gives the number of 50-gallon barrels of gum to charge into stills of various sizes:

<u>Still capacity</u>	<u>Virgin, raised, 2nd or 3rd year</u>	<u>Older gum</u>
<u>Bbls.</u>	<u>Bbls.</u>	<u>Bbls.</u>
15	6	5
20	8	7
25	10	8
30	12	10

If the stiller has trouble with his charge boiling over, he is probably putting too much gum into the still. Look into this yourself. Don't overcharge in order to catch up with the gum supply. It is dangerous. If you put in gum from the drainer tub, don't fill the still so full, because the gum from the drainers behaves like old gum.

Overcharging is especially dangerous if the charge becomes "flooded " In this case it is very likely to boil over and should be watched closely.

Keep all cracks and crevices around the still setting filled with brick and mortar.

